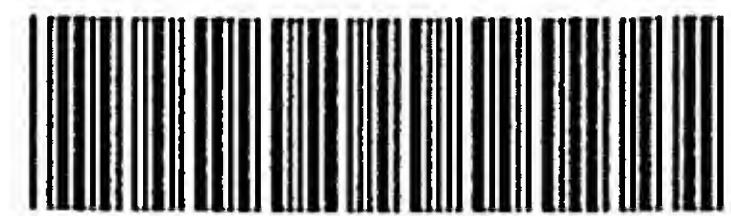


## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/535,441  
Source: PG/10  
Date Processed by STIC: 5/27/05

***ENTERED***



PCT

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/10/535,441  
 DATE: 05/27/2005  
 TIME: 11:26:40  
 Input Set : A:\X16700B\_US seq list revised Natl 12May2005.ST25.txt  
 Output Set: N:\CRF4\05272005\J535441.raw

3 <110> APPLICANT: Watkins, Jeffry Dean  
 4 Pancock, James David  
 6 <120> TITLE OF INVENTION: Butyrylcholinesterase Variants That Alter the Activity of  
 7 Chemotherapeutic Agents  
 9 <130> FILE REFERENCE: X16700  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/535,441  
 C--> 12 <141> CURRENT FILING DATE: 2005-05-19  
 14 <150> PRIOR APPLICATION NUMBER: US 10/310,666  
 15 <151> PRIOR FILING DATE: 2002-12-04  
 17 <150> PRIOR APPLICATION NUMBER: US 60/509,072  
 18 <151> PRIOR FILING DATE: 2002-12-04  
 20 <160> NUMBER OF SEQ ID NOS: 201  
 22 <170> SOFTWARE: PatentIn version 3.3  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 1722  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Artificial  
 29 <220> FEATURE:  
 30 <223> OTHER INFORMATION: Synthetic butyrylcholinesterase variant  
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 35 tttggtggca cggtAACAGC cttcttgga attccctatg cacagccacc tcttggtaga 120  
 37 cttcgattca aaaagccaca gtctctgacc aagtggctcg atatttggaa tgccacaaaa 180  
 39 tatgcaaatt cttgctgtca gaacatagat caaatTTTC caggctcca tggatcagag 240  
 41 atgtggaacc caaacactga cctcagtgaa gactgttat atctaaatgt atggattcca 300  
 43 gcacctaaac caaaaaatgc cactgtattt atatggattt atgggtgggg ttttcaaact 360  
 45 ggaacatcat cttaacatgt ttatgatggc aagtttctgg ctcgggttga aagagttatt 420  
 47 gtagtgtcaa tgaactatag ggtgggtgcc ctaggattct tagctttgcc aggaaatcct 480  
 49 gaggtccag ggaacatggg tttatttgc caacagttgg ctcttcagtg ggtcaaaaa 540  
 51 aatatagcag cctttgggg aaatcctaaa agttaactc tctttggaga aagtgcagga 600  
 53 gcagcttcag ttgcctgca tttgctttct cctggaagcc attcattgtt caccagagcc 660  
 55 attctgcaaa gtgggtccgc kaatgctcct tggcggtaa catctctta tgaagctagg 720  
 57 aacagaacgt tgaacttagc taaattgact gttgctcta gagagaatga gactgaaata 780  
 59 atcaagtgtc tttagaaataa agatccccaa gaaattcttc tgaatgaagc atttgttgc 840  
 61 ccctatggga ctcccttgc agtaaaactt ggtccgaccg tggatggtaa ttttctcact 900  
 63 gacatgccag acatattact tgaacttgga caattaaaa aaacccagat tttgggtgg 960  
 65 gttaataaaatg atgaaggac agctttta gtctatggta ctcctggctt cagcaaagat 1020  
 67 aacaatagta tcataactag aaaagaattt caggaagggt taaaaatatt ttttccagga 1080  
 69 gtgagttagt ttggaaagga atccatcctt tttcattaca cagactgggt agatgatcag 1140  
 71 agacctgaaa actaccgtga ggccttgggt gatgttggg gggattataa tttcatatgc 1200  
 73 cctgccttgg agttcaccaa gaagttctca gaatggggaa ataatgcctt tttctactat 1260  
 75 tttgaacacc gatcctccaa acttccgtgg ccagaatgga tggagtgat gcatggctat 1320  
 77 gaaattgaat ttgtctttgg tttacctctg gaaagaagag ataattacac aaaagccgag 1380

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/535,441

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TIME: 11:26:40

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Output Set: N:\CRF4\05272005\J535441.raw

79 gaaattttga gtagatccat agtggaaacgg tgggcaaatt ttgcaaaata tggaatcca 1440  
 81 aatgagactc agaacaatag cacaagctgg cctgtcttca aaagcactga acaaaaaat 1500  
 83 ctaacccttga atacagagtc aacaagaata atgacgaaac tacgtgctca acaatgtcga 1560  
 85 ttctggacat catttttcc aaaagtcttg gaaatgacag gaaatattga tgaaggagaa 1620  
 87 tgggagtgg aaggcaggatt ccattcgctgg aacaattaca tgatggactg gaaaaatcaa 1680  
 89 tttaacgatt acactagcaa gaaagaaagt tgtgtgggtc tc 1722  
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 93 <211> LENGTH: 574  
 94 <212> TYPE: PRT  
 95 <213> ORGANISM: Artificial  
 97 <220> FEATURE:  
 98 <223> OTHER INFORMATION: Synthetic butyrylcholinesterase variant  
 101 <220> FEATURE:  
 102 <221> NAME/KEY: VARIANT  
 103 <222> LOCATION: (227)..(227)  
 104 <223> OTHER INFORMATION: Xaa = Ala  
 106 <400> SEQUENCE: 2  
 108 Glu Asp Asp Ile Ile Ala Thr Lys Asn Gly Lys Val Arg Gly Met  
 109 1 5 10 15  
 112 Asn Leu Thr Val Phe Gly Gly Thr Val Thr Ala Phe Leu Gly Ile Pro  
 113 20 25 30  
 116 Tyr Ala Gln Pro Pro Leu Gly Arg Leu Arg Phe Lys Lys Pro Gln Ser  
 117 35 40 45  
 120 Leu Thr Lys Trp Ser Asp Ile Trp Asn Ala Thr Lys Tyr Ala Asn Ser  
 121 50 55 60  
 124 Cys Cys Gln Asn Ile Asp Gln Ser Phe Pro Gly Phe His Gly Ser Glu  
 125 65 70 75 80  
 128 Met Trp Asn Pro Asn Thr Asp Leu Ser Glu Asp Cys Leu Tyr Leu Asn  
 129 85 90 95  
 132 Val Trp Ile Pro Ala Pro Lys Pro Lys Asn Ala Thr Val Leu Ile Trp  
 133 100 105 110  
 136 Ile Tyr Gly Gly Phe Gln Thr Gly Thr Ser Ser Leu His Val Tyr  
 137 115 120 125  
 140 Asp Gly Lys Phe Leu Ala Arg Val Glu Arg Val Ile Val Val Ser Met  
 141 130 135 140  
 144 Asn Tyr Arg Val Gly Ala Leu Gly Phe Leu Ala Leu Pro Gly Asn Pro  
 145 145 150 155 160  
 148 Glu Ala Pro Gly Asn Met Gly Leu Phe Asp Gln Gln Leu Ala Leu Gln  
 149 165 170 175  
 152 Trp Val Gln Lys Asn Ile Ala Ala Phe Gly Gly Asn Pro Lys Ser Val  
 153 180 185 190  
 156 Thr Leu Phe Gly Glu Ser Ala Gly Ala Ala Ser Val Ser Leu His Leu  
 157 195 200 205  
 160 Leu Ser Pro Gly Ser His Ser Leu Phe Thr Arg Ala Ile Leu Gln Ser  
 161 210 215 220  
 W--> 164 Gly Ser Xaa Asn Ala Pro Trp Ala Val Thr Ser Leu Tyr Glu Ala Arg  
 165 225 230 235 240  
 168 Asn Arg Thr Leu Asn Leu Ala Lys Leu Thr Gly Cys Ser Arg Glu Asn  
 169 245 250 255

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/535,441

DATE: 05/27/2005  
TIME: 11:26:40

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Output Set: N:\CRF4\05272005\J535441.raw

172	Glu	Thr	Glu	Ile	Ile	Lys	Cys	Leu	Arg	Asn	Lys	Asp	Pro	Gln	Glu	Ile	
173				260				265								270	
176	Leu	Leu	Asn	Glu	Ala	Phe	Val	Val	Pro	Tyr	Gly	Thr	Pro	Leu	Ser	Val	
177				275				280								285	
180	Asn	Phe	Gly	Pro	Thr	Val	Asp	Gly	Asp	Phe	Leu	Thr	Asp	Met	Pro	Asp	
181		290					295					300					
184	Ile	Leu	Leu	Glu	Leu	Gly	Gln	Phe	Lys	Lys	Thr	Gln	Ile	Leu	Val	Gly	
185	305					310				315						320	
188	Val	Asn	Lys	Asp	Glu	Gly	Thr	Ala	Phe	Leu	Val	Tyr	Gly	Ala	Pro	Gly	
189						325				330						335	
192	Phe	Ser	Lys	Asp	Asn	Asn	Ser	Ile	Ile	Thr	Arg	Lys	Glu	Phe	Gln	Glu	
193						340				345						350	
196	Gly	Leu	Lys	Ile	Phe	Phe	Pro	Gly	Val	Ser	Glu	Phe	Gly	Lys	Glu	Ser	
197						355			360				365				
200	Ile	Leu	Phe	His	Tyr	Thr	Asp	Trp	Val	Asp	Asp	Gln	Arg	Pro	Glu	Asn	
201						370			375				380				
204	Tyr	Arg	Glu	Ala	Leu	Gly	Asp	Val	Val	Gly	Asp	Tyr	Asn	Phe	Ile	Cys	
205	385					390				395						400	
208	Pro	Ala	Leu	Glu	Phe	Thr	Lys	Lys	Phe	Ser	Glu	Trp	Gly	Asn	Asn	Ala	
209						405				410						415	
212	Phe	Phe	Tyr	Tyr	Phe	Glu	His	Arg	Ser	Ser	Lys	Leu	Pro	Trp	Pro	Glu	
213						420				425						430	
216	Trp	Met	Gly	Val	Met	His	Gly	Tyr	Glu	Ile	Glu	Phe	Val	Phe	Gly	Leu	
217						435			440				445				
220	Pro	Leu	Glu	Arg	Arg	Asp	Asn	Tyr	Thr	Lys	Ala	Glu	Glu	Ile	Leu	Ser	
221						450			455				460				
224	Arg	Ser	Ile	Val	Lys	Arg	Trp	Ala	Asn	Phe	Ala	Lys	Tyr	Gly	Asn	Pro	
225	465					470				475						480	
228	Asn	Glu	Thr	Gln	Asn	Asn	Ser	Thr	Ser	Trp	Pro	Val	Phe	Lys	Ser	Thr	
229						485			490				495				
232	Glu	Gln	Lys	Tyr	Leu	Thr	Leu	Asn	Thr	Glu	Ser	Thr	Arg	Ile	Met	Thr	
233						500			505				510				
236	Lys	Leu	Arg	Ala	Gln	Gln	Cys	Arg	Phe	Trp	Thr	Ser	Phe	Phe	Pro	Lys	
237						515			520				525				
240	Val	Leu	Glu	Met	Thr	Gly	Asn	Ile	Asp	Glu	Ala	Glu	Trp	Glu	Trp	Lys	
241						530			535				540				
244	Ala	Gly	Phe	His	Arg	Trp	Asn	Asn	Tyr	Met	Met	Asp	Trp	Lys	Asn	Gln	
245	545					550				555						560	
248	Phe	Asn	Asp	Tyr	Thr	Ser	Lys	Lys	Glu	Ser	Cys	Val	Gly	Leu			
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253	<211>	LENGTH:	1722														
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260	<400>	SEQUENCE:	3														
261	gaagatgaca	tcataattgc	aacaaagaat	ggaaaagtca	gagggatgaa	cttgacagtt										60	
263	tttggtagca	cggtaacagc	ctttcttggca	attccctatg	cacagccacc	tcttggtaga										120	

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/535,441

DATE: 05/27/2005  
TIME: 11:26:40

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267	tatgcaaatt	cttgctgtca	gaacatagat	caaagtttc	caggcttcca	tggatcagag	240
269	atgtggAAC	caaacactga	cctcagtcaa	gactgttat	atctaaatgt	atggattcca	300
271	gcacctaAac	caaaaaatgc	cactgtattg	atatggattt	atgggtgg	tttcaaaact	360
273	ggaacatcat	cttacatgt	ttatgatggc	aagtttctgg	ctcggttga	aagagttatt	420
275	gtagtgtcaa	tgaactata	ggtgggtgcc	ctaggattct	tagcttgcc	aggaaatcct	480
277	gaggctccag	ggaacatggg	tttatttgc	caacagtgg	ctttcagtg	ggttcaaaaa	540
279	aatatagcag	ccttgggtgg	aaatcctaaa	agtgttaactc	tctttggaga	aagtgcagga	600
281	gcagcttcag	ttagcctgca	tttgcttct	cctggaaGCC	attcattgtt	caccagagcc	660
283	attctgcaaa	gtgggtccgc	kaatgctcct	tgggcggtaa	catctctta	tgaagctagg	720
285	aacagaacgt	tgaacttagc	taaattgact	ggttgctct	gagagaatga	gactgaaata	780
287	atcaagtgtc	ttagaaataa	agatccccaa	gaaattcttc	tgaatgaagc	atttgttgc	840
289	ccctatgggg	ckccttgc	agtaaacttt	ggtccgaccg	tggatggta	tttctcact	900
291	gacatgccag	acatattact	tgaacttgga	caattaaaa	aaacccagat	tttgggtgggt	960
293	gttaataaaag	atgaagggac	agcttttta	gtctatggtg	ctcctggctt	cagcaaagat	1020
295	aacaatagta	tcataactag	aaaagaattt	caggaaggtt	taaaaaatatt	tttccagga	1080
297	gtgagtgagt	ttggaaagga	atccatcctt	tttcattaca	cagactgggt	agatgatcag	1140
299	agacctgaaa	actaccgtga	ggccttgggt	gatgttgg	gggattataa	tttcatatgc	1200
301	cctgccttgg	agtcaccaa	gaagttctca	gaatgggaa	ataatgcc	tttctactat	1260
303	tttgaacacc	gatcctccaa	acttccgtgg	ccagaatgga	tggagtgat	gcatggctat	1320
305	gaaattgaat	ttgtcttgg	tttacctctg	gaaagaagag	ataattacac	aaaagccgag	1380
307	gaaattttga	gtagatccat	agtgaaacgg	tggcaaaatt	ttgcaaaata	tggaaatcca	1440
309	aatgagactc	agaacaata	cacaagctgg	cctgtctca	aaagcactga	acaaaaat	1500
311	ctaacccttga	atacagagtc	aacaagaata	atgacgaaac	tacgtgctca	acaatgtcga	1560
313	ttctggacat	catttttcc	aaaagtcttg	gaaatgacag	gaaatattga	tgaagcagaa	1620
315	tggagtgga	aagcaggatt	ccatcgctgg	aacaattaca	tgtggactg	gaaaaatcaa	1680
317	tttaacgatt	acactagcaa	gaaagaaagt	tgtgtggtc	tc		1722

320 <210> SEQ ID NO: 4

321 <211> LENGTH: 574

322 <212> TYPE: PRT

323 <213> ORGANISM: Artificial

325 <220> FEATURE:

326 <223> OTHER INFORMATION: Synthetic butyrylcholinesterase variant

329 <220> FEATURE:

330 <221> NAME/KEY: VARIANT

331 <222> LOCATION: (227)..(227)

332 <223> OTHER INFORMATION: Xaa = Ala

334 <220> FEATURE:

335 <221> NAME/KEY: VARIANT

336 <222> LOCATION: (284)..(284)

337 <223> OTHER INFORMATION: Xaa = Ala

339 <400> SEQUENCE: 4

341 Glu Asp Asp Ile Ile Ile Ala Thr Lys Asn Gly Lys Val Arg Gly Met

342 1 5 10 15

345 Asn Leu Thr Val Phe Gly Gly Thr Val Thr Ala Phe Leu Gly Ile Pro

346 20 25 30

349 Tyr Ala Gln Pro Pro Leu Gly Arg Leu Arg Phe Lys Lys Pro Gln Ser

350 35 40 45

353 Leu Thr Lys Trp Ser Asp Ile Trp Asn Ala Thr Lys Tyr Ala Asn Ser

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION: US/10/535,441**

**DATE: 05/27/2005**  
**TIME: 11:26:40**

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357	Cys Cys Gln Asn Ile Asp Gln Ser Phe Pro Gly Phe His Gly Ser Glu		
358	65	70	75 80
361	Met Trp Asn Pro Asn Thr Asp Leu Ser Glu Asp Cys Leu Tyr Leu Asn		
362	85	90	95
365	Val Trp Ile Pro Ala Pro Lys Pro Lys Asn Ala Thr Val Leu Ile Trp		
366	100	105	110
369	Ile Tyr Gly Gly Gly Phe Gln Thr Gly Thr Ser Ser Leu His Val Tyr		
370	115	120	125
373	Asp Gly Lys Phe Leu Ala Arg Val Glu Arg Val Ile Val Val Ser Met		
374	130	135	140
377	Asn Tyr Arg Val Gly Ala Leu Gly Phe Leu Ala Leu Pro Gly Asn Pro		
378	145	150	155 160
381	Glu Ala Pro Gly Asn Met Gly Leu Phe Asp Gln Gln Leu Ala Leu Gln		
382	165	170	175
385	Trp Val Gln Lys Asn Ile Ala Ala Phe Gly Gly Asn Pro Lys Ser Val		
386	180	185	190
389	Thr Leu Phe Gly Glu Ser Ala Gly Ala Ala Ser Val Ser Leu His Leu		
390	195	200	205
393	Leu Ser Pro Gly Ser His Ser Leu Phe Thr Arg Ala Ile Leu Gln Ser		
394	210	215	220
<b>W--&gt;</b>	<b>397 Gly Ser Xaa Asn Ala Pro Trp Ala Val Thr Ser Leu Tyr Glu Ala Arg</b>		
398	225	230	235 240
401	Asn Arg Thr Leu Asn Leu Ala Lys Leu Thr Gly Cys Ser Arg Glu Asn		
402	245	250	255
405	Glu Thr Glu Ile Ile Lys Cys Leu Arg Asn Lys Asp Pro Gln Glu Ile		
406	260	265	270
409	Leu Leu Asn Glu Ala Phe Val Val Pro Tyr Gly Xaa Pro Leu Ser Val		
410	275	280	285
413	Asn Phe Gly Pro Thr Val Asp Gly Asp Phe Leu Thr Asp Met Pro Asp		
414	290	295	300
417	Ile Leu Leu Glu Leu Gly Gln Phe Lys Lys Thr Gln Ile Leu Val Gly		
418	305	310	315 320
421	Val Asn Lys Asp Glu Gly Thr Ala Phe Leu Val Tyr Gly Ala Pro Gly		
422	325	330	335
425	Phe Ser Lys Asp Asn Asn Ser Ile Ile Thr Arg Lys Glu Phe Gln Glu		
426	340	345	350
429	Gly Leu Lys Ile Phe Phe Pro Gly Val Ser Glu Phe Gly Lys Glu Ser		
430	355	360	365
433	Ile Leu Phe His Tyr Thr Asp Trp Val Asp Asp Gln Arg Pro Glu Asn		
434	370	375	380
437	Tyr Arg Glu Ala Leu Gly Asp Val Val Gly Asp Tyr Asn Phe Ile Cys		
438	385	390	395 400
441	Pro Ala Leu Glu Phe Thr Lys Lys Phe Ser Glu Trp Gly Asn Asn Ala		
442	405	410	415
445	Phe Phe Tyr Tyr Phe Glu His Arg Ser Ser Lys Leu Pro Trp Pro Glu		
446	420	425	430
449	Trp Met Gly Val Met His Gly Tyr Glu Ile Glu Phe Val Phe Gly Leu		
450	435	440	445

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/535,441

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TIME: 11:26:41

Input Set : A:\X16700B\_US seq list revised Natl 12May2005.ST25.txt  
Output Set: N:\CRF4\05272005\J535441.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 227  
Seq#:4; Xaa Pos. 227, 284  
Seq#:6; Xaa Pos. 227  
Seq#:8; Xaa Pos. 227  
Seq#:10; Xaa Pos. 227  
Seq#:14; Xaa Pos. 287  
Seq#:24; Xaa Pos. 227  
Seq#:26; Xaa Pos. 227  
Seq#:28; Xaa Pos. 227  
Seq#:30; Xaa Pos. 227  
Seq#:32; Xaa Pos. 227  
Seq#:34; Xaa Pos. 227  
Seq#:36; Xaa Pos. 227  
Seq#:38; Xaa Pos. 227  
Seq#:40; Xaa Pos. 227  
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Seq#:46; Xaa Pos. 227  
Seq#:48; Xaa Pos. 227  
Seq#:50; Xaa Pos. 227  
Seq#:52; Xaa Pos. 227  
Seq#:54; Xaa Pos. 227  
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Seq#:92; Xaa Pos. 227  
Seq#:94; Xaa Pos. 227  
Seq#:96; Xaa Pos. 227  
Seq#:98; Xaa Pos. 227

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/535,441

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TIME: 11:26:41

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Seq#:100; Xaa Pos. 227  
Seq#:102; Xaa Pos. 227  
Seq#:104; Xaa Pos. 227  
Seq#:106; Xaa Pos. 227  
Seq#:108; Xaa Pos. 227  
Seq#:110; Xaa Pos. 227  
Seq#:112; Xaa Pos. 227

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,  
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,19,20,23,24,25,26,27,28,29,30,31  
Seq#:32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55  
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**VERIFICATION SUMMARY**  
**PATENT APPLICATION: US/10/535,441**

**DATE: 05/27/2005**  
**TIME: 11:26:41**

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**Output Set: N:\CRF4\05272005\J535441.raw**

L:11 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:224  
L:397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:224  
M:341 Repeated in SeqNo=4  
L:630 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:224  
L:863 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:224  
L:1096 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:224  
L:1574 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:272  
L:2686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:224  
L:2919 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:224  
L:3152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:224  
L:3385 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:224  
L:3618 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:224  
L:3851 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:224  
L:4084 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:224  
L:4317 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:224  
L:4550 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:224  
L:4783 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:224  
L:5016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:224  
L:5249 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:224  
L:5482 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:224  
L:5715 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:224  
L:5948 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:224  
L:6181 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:224  
L:6414 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:224  
L:6647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:224  
L:6880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:224  
L:7113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:62 after pos.:224  
L:7346 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:64 after pos.:224  
L:7579 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:224  
L:7812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:68 after pos.:224  
L:8045 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:70 after pos.:224  
L:8278 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:224  
L:8511 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74 after pos.:224  
L:8744 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:224  
L:8977 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:224  
L:9210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80 after pos.:224  
L:9443 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:224  
L:9676 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:224  
L:9909 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:224  
L:10142 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:224  
L:10375 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:224  
L:10608 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:224  
L:10841 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:94 after pos.:224  
L:11074 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:96 after pos.:224  
L:11307 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:98 after pos.:224  
L:11540 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:100 after pos.:224

VERIFICATION SUMMARY  
PATENT APPLICATION: US/10/535,441

DATE: 05/27/2005  
TIME: 11:26:41

Input Set : A:\X16700B\_US seq list revised Natl 12May2005.ST25.txt  
Output Set: N:\CRF4\05272005\J535441.raw

L:11773 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:102 after pos.:224  
L:12006 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:104 after pos.:224  
L:12239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:106 after pos.:224  
L:12472 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:108 after pos.:224